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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,052	05/22/2001	Dan F. Ammar	24418	7389

7590 05/06/2004

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EXAMINER	
NGUYEN, SIMON	
ART UNIT	PAPER NUMBER
2685	7

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/863,052	AMMAR, DAN F.	
	Examiner	Art Unit	
	SIMON D NGUYEN	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-14 and 16-22* is/are rejected.

7)☒ Claim(s) *5 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5, 6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 6, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Winslow (6,194,968).

Regarding claim 1, Winslow discloses a transceiver module (fig.2) comprising: a microwave monolithic integrated circuit (MMIC) having at least one amplifier (fig.2, column 4 lines 54-55); and a controller (170) operatively connected to said MMIC for sensing amplifier operating conditions and tuning (adjusting) the at least one amplifier to an optimum operating condition (column 4 lines 40-67, column 5 lines 33-40).

Regarding claim 6, Winslow further discloses wherein said controller further comprises a sensor for sensing changes in operating amplifier conditions by the at least one amplifier, wherein said controller adjusts the at least one amplifier based on sensed changes in amplifier operating conditions (column 4 line 56 to column 5 line 39).

Regarding claim 9, Winslow further discloses a temperature sensor (150) for measuring the temperature of said MMIC, wherein said controller is responsive to sensed temperature for determining whether any change in amplifier operating conditions is a result of a changed temperature or a malfunction (column 4 line 40 to column 5 line 39).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winslow (6,194,968).

Regarding claim 2, Winslow discloses a control unit comprising a microcontroller (30) connected to the MMIC (figs.1-2). However, Winslow does not specifically disclose the microcontroller is a surface mounted microcontroller. The examiner takes an official notice that even though Winslow does not specifically disclose the microcontroller chip mounted on the surface, however, the microcontroller chip mounted on a surface of a circuit board is known to those skilled in the art in order to easily replace as well as to save cost of the replacement in case of defection or damage to the microcontroller without replacing a whole circuit board.

5. Claims 3-4, 8, 10-15, 17, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winslow (6,194,968) in view of Hulkko (5,551,067).

Regarding claim 12, Winslow discloses a transceiver module (fig.2) comprising: a microwave monolithic integrated circuit (MMIC) having a plurality of amplifiers, each has a source, a drain, and a gate (fig.2, column 4 lines 1-21, 54-55); and a controller (170) operatively connected to said MMIC for sensing amplifier operating conditions and tuning (adjusting) the at least one amplifier to an optimum operating condition (column 4 lines 40-67, column 5 lines 33-40). However, Winslow does not specifically disclose a memory.

Hulkko discloses a method for controlling frequency power amplifier having a memory, wherein the memory having stored values of optimum operating conditions for an amplifier and tuning each amplifier based on the stored values (fig.2, column 6 lines 5-14). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Winslow, modified by Hulkko to adjust a transmitting signal according to its preset value in order to transmit a signal at a desired power.

Regarding claims 3-4, 8, 10, 15, 19, and 21, Winslow does not specifically disclose an EEPROM memory, a power sensor, and a multi-channel analog-to-digital converter.

Hulkko discloses a method and apparatus for controlling radio frequency amplifier (abstract) comprising an EEPROM memory having stored values of operating conditions for the amplifier such that the controller (5, 14) controls (tunes) the amplifier

based on the stored values (fig.2, column 6 lines 5-67), a power sensor diode (3) operatively connected to said at least one amplifier, wherein said controller is responsive to said power sensor diode for tuning said at least one amplifier and a controller (5,14) responsive to the power sensor diode for adjusting the amplifier (fig.2, column 4 lines 23-51), and an analog-to-digital converter (8, 13) (fig.2, column 5 lines 12-15, column 7 lines 15-42). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Winslow, modified by Hulkko to adjust a transmitting signal according to its preset value in order to allow the amplifier to operate in any one of multiple signal modulation systems.

Regarding claims 11 and 22, Winslow discloses the control unit (controller) operated for correcting a gain variation over temperature, the linearization (performance drift, fluctuations) of the power monitor circuit as a function of temperature and frequency, gain equalization (compensation) (column 4 line 22 to column 5 line 40). However, Winslow does not specifically disclose power attenuation linearization as a function of frequency and temperature.

Hulkko discloses the same type of invention, in which the power attenuation linearization as a function of frequency and temperature (fig.2, column 4 line 57-60). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Winslow, modified by Hulkko to adjust a transmitting signal according to its preset value in order to improve the system performance.

Regarding claim 13, Winslow discloses a sensing unit (150) for sensing amplifier operating conditions and a microprocessor (30) (figs.1, 2, column 3 line 19, column 4 lines 40-55). However, Winslow does not disclose an A/D converter.

In the same type of invention, Hulkko discloses a control unit having a microprocessor and an A/D converter for comparing stored values and digitized output and controlling the tuning of the amplifier (fig.2, column 4 lines 23-42, column 6 lines 5-14, column 7 lines 16-43). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Winslow, modified by Hulkko to adjust a transmitting signal according to its preset value in order to transmit a signal at a desired power.

Regarding claim 14, this claim is rejected for the same reason as set forth in claim 2.

Regarding claim 17, this claim is rejected for the same reason as set forth in claim 6.

Regarding claim 20, this claim is rejected for the same reason as set forth in claim 9.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Winslow (6,194,968) in view of Sturzebecher et al. (5,162,657).

Regarding claim 7, Winslow does not disclose a potentiometer.

Sturzebecher discloses a MMIC having a potentiometer for measuring voltage at an amplifier (column 1 line 43, column 4 lines 6, 9). Therefore, it would have been

obvious to one skilled in the art at the time the invention was made to have the modified Winslow system, modified by Sturzebecher to measure voltage at each amplifier in order to control a transmission signal at a desired power.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Winslow (6,194,968) in view of Hulkko et al. (5,551,067) as applied to claim 12, and further in view of Sturzebecher et al. (5,162,657).

Regarding claim 18, the modified Winslow system does not disclose a potentiometer.

Sturzebecher discloses a MMIC having a potentiometer for measuring voltage at an amplifier (column 1 line 43, column 4 lines 6, 9). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have the modified Winslow system, modified by Sturzebecher to measure voltage at each amplifier in order to control a transmission signal at a desired power.

Allowable Subject Matter

8. Claims 5 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 5 and 16, Hulkko discloses stored values of operating conditions for the amplifier in a memory (column 6 lines 5-14).

Hirvilampi (6,351,189) discloses the stored values including drain current and expected amplifier output of an amplifier (column 11 lines 9-26).

The prior art of record do not specifically disclose stored values of preset MMIC characteristics including optimum drain current and expected amplifier output at **various stages** in a radio frequency circuit.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (703) 308-1116. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Hand-delivered response should be brought to Crystal Park II,

2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Simon Nguyen

April 27, 2004

Simon Nguyen

10.